IN THE CLAIMS

The status of the claims in the application are as follows:

Claim 1. (amended) A method of sizing cracks in a metal surface using sound wave measurements of propagation and reflection thereof which are initiated at an optimal degree angle to the surface comprising the steps of:

acquire sound wave data by displacing a transducer along the direction of propagation of the sound waves;

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review the acquired sound wave data for signal reflections at 1/2 skip, full skip and 1 1/2 skip locations,

when 1/2 skip, full skip and 1 1/2 skip reflections are detected reviewing reflected signals for a crack tip signal;

[whenever crack tip signal is verified using crack tip signal to size the surface crack.]

reviewing reflected signal data to determine if no crack tip signal was detected and that reflections are present at the ½ and 11/2 skip locations;

using target motion TOF with MCS correction to size the surface crack only if no full skip reflection signal is present.

Claim 2. (canceled)

Claim 3. (amended) A method as set forth in claim[2] 1including the further steps of:

reviewing signal reflected data to determine if full skip signal was present in addition to the 1/2 skip and 11./2 skip signals;

using FSN sizing method to size the surface crack whenever

all thre of the above signals are present.

Claim 4. (amended) [An] A Full Skip Normalization FSN method [where] using the ratio of [the] a full skip signal amplitude to the average of [the] outer diameter skip signal amplitudes [produces a normalized result. This ratio can be used] to depth size deep cracks propagating from [the] a surface located opposite from[the] a UT transducer comprising the steps of:[.]

measuring a full skip signal amplitude;

measuring a series of outer diameter signal amplitudes;

averaging said series of outer diameter signal amplitudes;

9 forming a ratio of the measured full skip signal amplitude to the averaged series of outer diameter amplitudes; and

11 converting the ratio of the full skip signal amplitude to averaged outer diameter amplitudes to a remaining wall thickness using an empirically derived formula.

Claim 5. (canceled).

Claim 6. (amended) A method as set forth in claim [5] 4 where for the given application of the thin wall tubing with thickness [between 0.035 to 0.070] approximately 0.050 inches, the remaining wall thickness is obtained by the following formula:

Remaining Wall (inches) = 0.031 - FSN ratio * 0.031.

Claim 7. (amended) A method as set forth in claim 3 wherein the sound waves are [UT] waves measured by an ultrasonic transducer initiated at an appropriate angle to the metal surface being tested.

Claim 8. (original) A method as set forth in claim 7 wherein the metal surface is a composite or otherwise intimately bonded layer of metal tube or plate having a crack width less than 0.001 in.

Claim 9. (amended) A mode conversion method (MCS) as set forth in claim [2] <u>1</u> where [the] an **UNCORRECTED UT DEPTH ESTIMATE** is the UT system depth measurement based on the conventional shear wave target motion time of flight (TOF) analysis.

Claim 10. (amended) A mode conversion method (MCS) as set forth in claim [2] <u>9</u> where [the] <u>an</u> **UNCORRECTED TOF DEPTH PREDICTION** [is] derived from a theoretical model of a mode converted signal[. The model] <u>which</u> calculates the resultant of depth based on the known notch depth and shear wave target motion TOF technique.

Claim 11. (amended) A mode conversion method (MCS) as set forth in claim [2] <u>10</u> where [the] <u>a</u> **CORRECTED TOF DEPTH PREDICTION** is the **UNCORRECTED UT DEPTH ESTIMATE** value multiplied by a MCS correction factor.

Claim 12. (amended) A method as set forth in claim [2] <u>11</u> wherein the metal surface is a thin wall tube and the MCS correction factor is determined experimentally and is between 1.6 and 1.9.

Claim 13. (canceled)